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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/516,447

11/29/2004

Raanan Ben-Horin

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8791 7590 01/23/2007  
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EXAMINER

RIPLEY, JAY R

ART UNIT

PAPER NUMBER

3679

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/23/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/516,447

Applicant(s)

BEN-HORIN, RAANAN

Examiner

Jay R. Ripley

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/06/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/29/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/07/2006.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) filed on 12/07/2006 was considered by the examiner.

### ***Drawings***

3. The drawings are objected to because of incorrect cross-hatching of the plastic mounting ring components in Figures 1, 4, 6, and 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either

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“Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 21-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. In regard to claim 21, it is unclear as to the limitation the recited phrase “wherein said mounting ring has a cone-shaped outer surface ... and holding the ring affixed to the pipe with said mounting flange having a cone-shaped inner surface and being tightened against the ring, the gasket and the counter-flange” is meant to state. The Examiner is interpreting the recited phrase to mean that the mounting flange is holding the mounting ring affixed to the pipe when it is tightened towards the counter-flange.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 21-23, 26, 31, 32, 34, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Baker (U.S. 6,394,507).

9. In regard to claim 21, Baker discloses in Figure 2, below, a pipe coupling for connecting a pipe (16) to a counter-flange associated with another pipe (16a) in a sealed manner, wherein the pipe is formed with a circumferential groove, the coupling comprising a gasket, a mounting ring, and a mounting flange, wherein the mounting ring has a cone-shaped outer surface (as observed in marked Figure 2 below and column 9, lines 29-31) and is elastically expandable (a material suitable for the mounting ring will have elastic properties) and grips around the groove by projection portions (shaded area as observed in marked Figure 2 below) fitting therein and holding the ring affixed to the pipe (column 9, lines 30-38) with the mounting flange having a cone-shaped inner surface (as observed in marked Figure 2 below and column 9, lines 39-43) and being tightened against the ring, the gasket and the counter-flange.

10. In regard to claim 22, Baker discloses that the ring is split (column 9, lines 21-27).
11. In regard to claim 23, Baker discloses that the ring is split by a cut extending in an axial plane thereof (as observed in marked Figure 2, above, the faces of the cuts, part 122, are in a plane with the sectional cut and therefore are made by a cut extending in an axial plane of the mounting ring).
12. In regard to claim 26, Baker discloses that the projection portions comprise a circular rib (column 9, lines 23-26).

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13. In regard to claim 31, Baker discloses that the ring has an outer cone-shaped surface (column 9, lines 29-30).

14. In regard to claim 32, Baker discloses that the cone angle is between 150-300 degrees relative to the axis of the ring (150-300 degrees is 30 degrees off the pipe central axis, therefore the 10-30 degrees as disclosed by Baker in column 2, line 63, through column 3, line 5, meets the claim).

15. In regard to claim 34, Baker discloses that the mounting flange is formed with an inner cone-shaped surface matching the cone-shaped surface of the ring (as observed in marked Figure 2 above).

16. In regard to claim 35, Baker discloses that the mounting flange is formed with a series of bores through which tightening bolts are adapted to pass (as observed in marked Figure 2 above).

***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

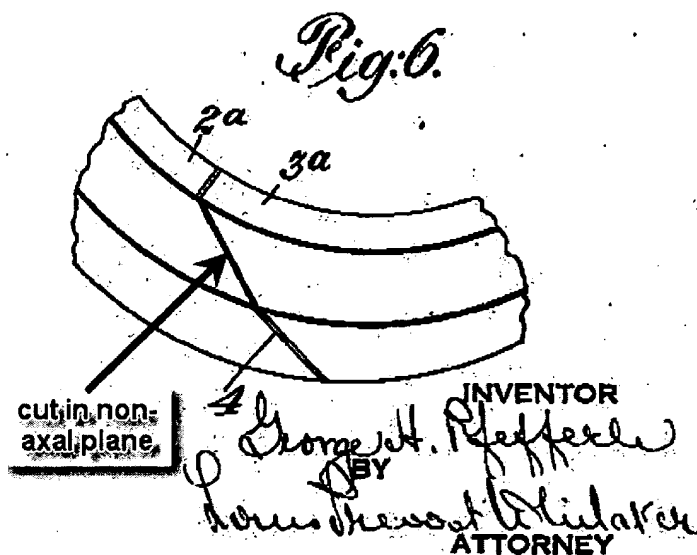
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied above, and further in view of Pfefferle (U.S. 1,942,489).

19. In regard to claim 24, Baker discloses the claimed invention except for the ring being split by a cut extending in a non-axial plane thereof. Pfefferle teaches a split ring, in Figure 6 below, used in pipe couplings that is split by a cut (4) extending in a non-axial plane to reduce

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the tendency of the ring ends from separating when the ring is compressed (column 1, lines 22-33). As the cut ring of Pfefferle relates to joining the ends of split rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to split the ring of Baker with a cut extending in a non-axial plane as taught by Pfefferle to reduce the tendency of the ring ends from separating when the ring is compressed.



(marked Pfefferle Figure 6)

20. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied above, and further in view of Robinson (U.S. 5,779,285).

21. In regard to claim 25, Baker does disclose that the pipe coupling components may be made of a variety of materials depending on the use of the coupling (column 10, lines 34-51), but Baker does not disclose a ring being made of plastic material. However, Robinson teaches a pipe coupling wherein the ring (30) is made of plastic materials to allow functioning in a corrosive environment (column 2, lines 10-13). As Robinson relates to pipe coupling materials choice, it would have been obvious to one having ordinary skill in the art at the time the invention was



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made to make the ring of Baker of plastic materials as taught by Robinson to allow functioning in a corrosive environment.

22. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied above, and further in view of Hanes (U.S. 3,381,983).

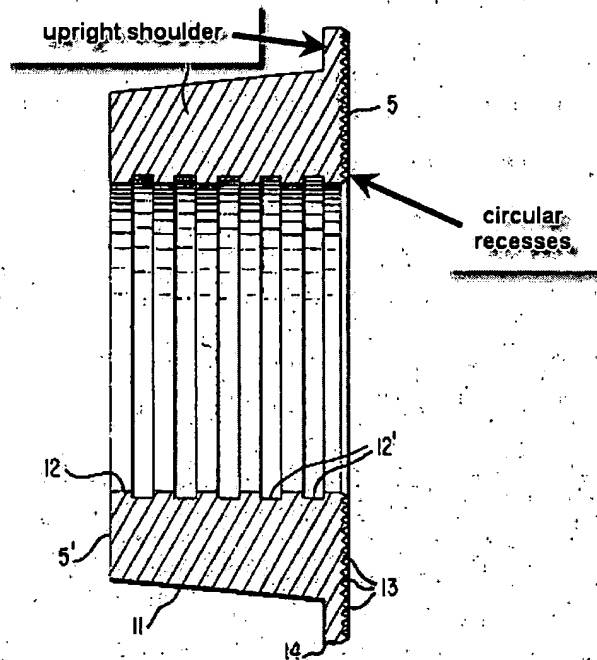
23. In regard to claim 27, Baker discloses the claimed invention except for the rib being of a generally saw-tooth shape having a right-angled side and a beveled side. Hanes teaches a ring (22) used with a pipe coupling with a circumferential groove that is of a generally saw-tooth shape having a right-angled side and a beveled side (as observed in Figure 6) to facilitate assembly of the coupling joint (column 3, lines 40-75, and column 4, lines 1-6). As relates to pipe coupling mounting rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the circular rib of Baker with a saw-tooth shape having a right-angled side and a beveled side ring as taught by Hanes to facilitate assembly of the coupling joint.

24. Claims 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied above, and further in view of Martin (U.S. 3,284,112).

25. In regard to claim 28, Baker discloses the claimed invention except for the mounting ring having a circular recess for the gasket. Martin teaches a pipe coupling with a mounting ring, as observed in marked Figure 3 below, with circular recesses (13) to engage a gasket and improve sealing (column 2, lines 40-44). It would have been obvious to one having ordinary skill in the

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art at the time the invention was made to modify the mounting ring of Baker with circular recesses as taught by Martin to engage a gasket and improve sealing of the o-ring gasket (23).

**FIG 3**

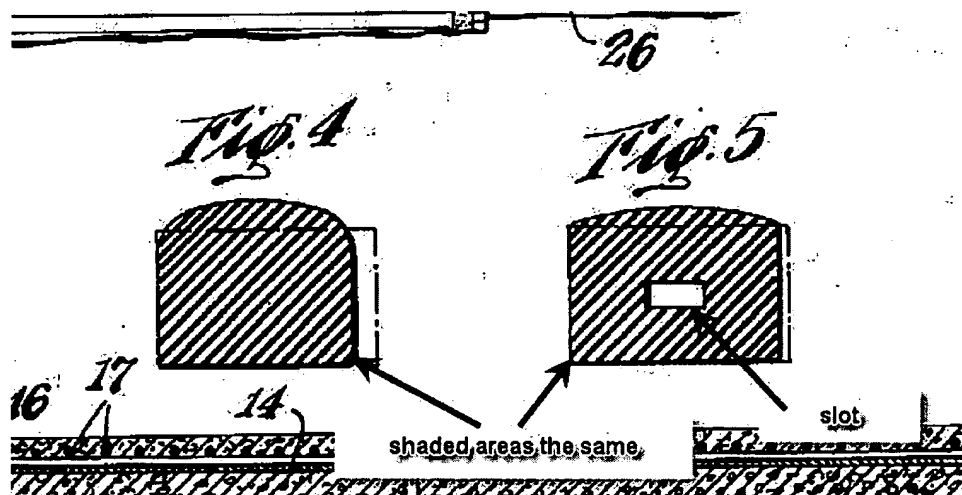
(marked Martin Figure 3)

26. In regard to claim 33, Baker discloses the claimed invention except for an upright shoulder extending around the end of the cone-shaped surface. Martin, in marked Figure 3 above, further teaches a mounting ring with an upright shoulder (14) to prevent the ring from being pulled through the mounting flange (column 2, lines 62-66). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the mounting ring of Baker with an upright shoulder as taught by Martin to prevent the mounting ring from being pulled through the mounting flange.

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27. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker in view of Martin as applied above, and further in view of Trickey (U.S. 1,976,589).

28. In regard to claim 29, Baker in view of Martin provide the claimed invention except for the gasket having an inner slot. Trickey teaches in Figure 5, below, a pipe joint gasket having an inner slot to allow a larger gasket perimeter for a given volume of gasket material (column 4, line 146, through column 5, line 13). As Trickey relates to gaskets, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the gasket of Baker with an inner slot as taught by Trickey to allow a larger gasket perimeter for a given volume of material.

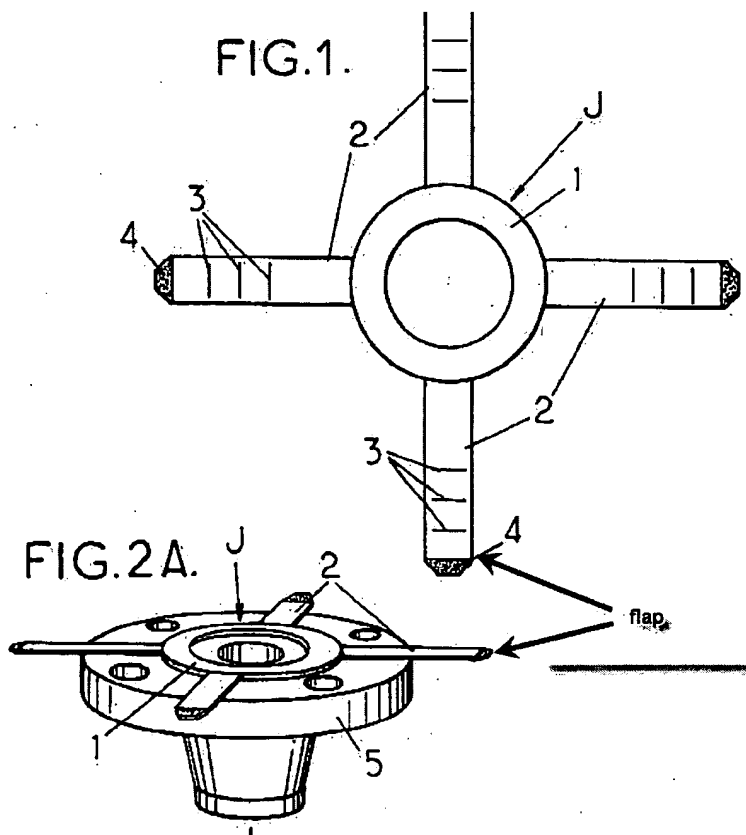


(marked Trickey Figures 4 and 5)

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29. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker in view of Martin in view of Trickey as applied above, and further in view of Loth (U.S. 6,367,803).

30. In regard to claim 30, Baker in view of Martin and Trickey provide the claimed invention except for the gasket being formed with a thin flap. Loth teaches a gasket in marked Figures 1 and 2A, below, with a thin lip to support the gasket centered prior to assembly of the pipe connection (column 1, lines 63-65). As relates to gaskets, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the gasket of Baker in view of Martin and Trickey with a thin lip as taught by Loth to support the gasket centered prior to assembly of the pipe connection.

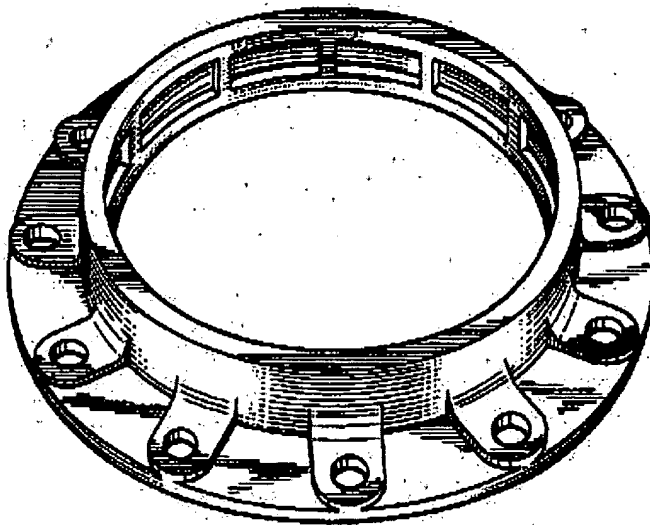


(Loth Figure 1 and Figure 2A)

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31. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims above, and further in view of Milot et al (U.S. Des. 284,022).

32. In regard to claim 36, Baker discloses the claimed invention except for the series of bores being partly surrounded by arcuate projections. Milot et al teach a flange in Figure 1, below, with arcuate projections partly surrounding the bores to buttress the flange against tensional bending when the bolts are tightened. As relates to flanges, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the flange of Baker with arcuate projections partly surrounding the bores as taught by Milot et al to buttress the flange against tensional bending when the bolts are tightened.



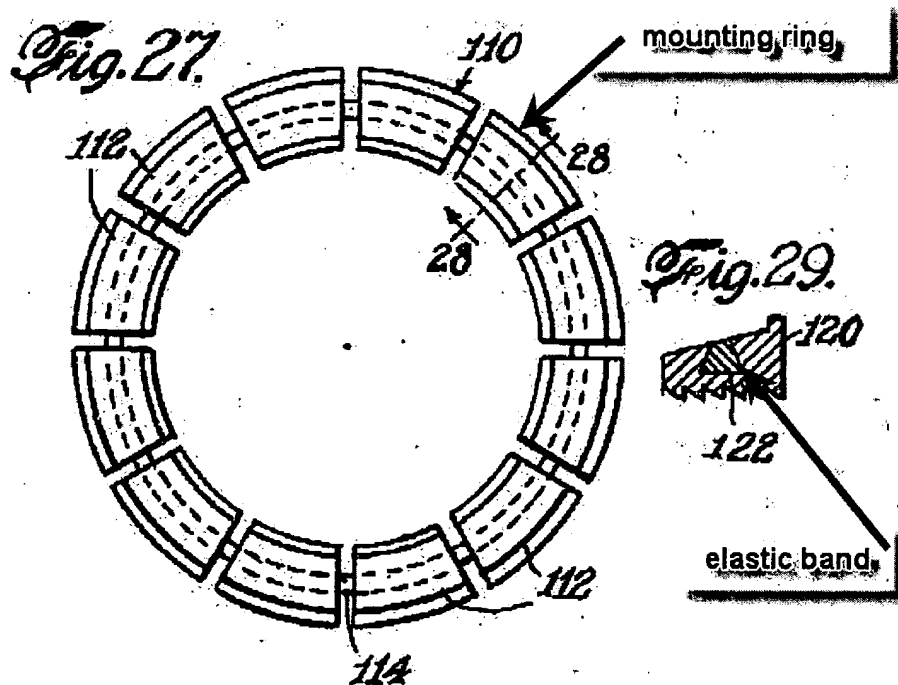
*Fig. 1*

(Milot et al Figure 1)

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33. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied above, and further in view of Risley (U.S. 2,779,610).

34. In regard to claim 37, Baker discloses the claimed invention except for the ring segments being held together by an elastic band. Risley teaches a pipe coupling with a multi-segment mounting ring in Figure 27, below, with an elastic band (122 as observed in Figure 29. below) holding the segments together to allow the segments to be moved radially inwardly into engagement with the pipe surface when compressed (column 6, lines 33-40). As relates to multi-segment mounting rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the mounting ring of Baker with an elastic band as taught by Risley to allow the segments to be moved radially inwardly into engagement with the pipe surface when compressed.



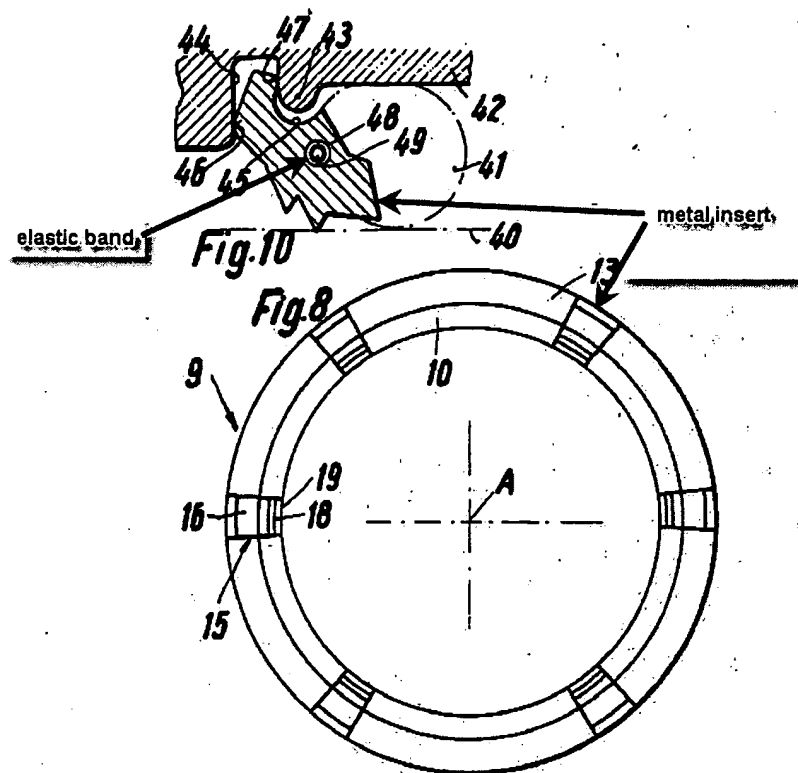
(marked Risley Figures 27 and 29)

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35. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker in view of Risley as applied above, and further in view of Seiler (U.S. 2,779,610).

36. In regard to claim 38, Baker in view of Risley provide for the claimed invention except for metal inserts being interposed between adjacent segments. Seiler in Figures 8 and 10, below, teach placing metal insets (metal as shown by the crosshatching in Figure 8) as an anti-thrust provision in rings of pipe connections to secure the male end against thrust (column 1, lines 1-2, and column 1, line 68, through column 2, line 1). As relates to pipe connection rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the segmented ring as provided by Baker in view of Risley with metal inserts interposed between adjacent segments as taught by Seiler to secure the male end against thrust.

37. In regard to claim 39, Seiler further teaches that the segments and inserts be held together by an elastic band threaded therethrough to secure the metal segments in the ring (column 6, lines 12-26). As relates to pipe connection rings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to hold the segments and inserts of the segmented ring provided by Baker in view of Risley by an elastic band threaded therethrough as taught by Seiler to secure the metal segments in the segmented ring.



(marked Seiler Figures 8 and 10)

38. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker. Baker discloses the claimed invention except for explicitly stating that the mounting ring being made of sheet metal. Baker does show that the ring is made of steel in Figure 2 above. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mounting ring of sheet metal, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design, *In re Leshin*, 125 USPQ 416.



***Allowable Subject Matter***

39. Claims 38 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

40. In regard to claim 38, the prior art of record fails to teach or suggest metal inserts being interposed between adjacent ring segments. The prior art of record teaches segmented rings, but with suggestion of metal inserts interposed between the segments.

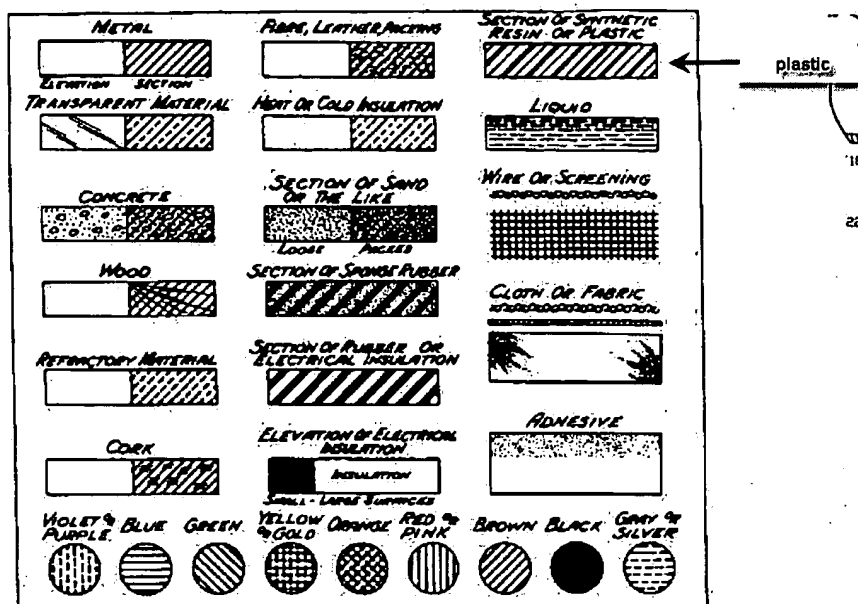
41. Claim 39 depends upon claim 38 and, therefore, will be found allowable should claim 38 be found allowable.

***Response to Arguments***

42. Applicant's arguments filed 12/06/2006 have been fully considered but they are not persuasive.

43. In response to Applicant's argument that the objection on the grounds of incorrect cross-hatching of plastic material components have been fully considered but they are not persuasive. Applicant asserts that the hatchings are consistent with a material made of plastics, yet as can be plainly observed on page 600-113 of the MPEP, Rev. 5, Aug. 2006, the cross-hatching is not that of a plastic material as shown. Below is the referenced cross-hatching chart.

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(cross-hatching chart from page 600-116 of MPEP, Rev. 5, Aug. 2006)

44. In response to Applicant's assertion in page 10, lines 10-13, that a *prima facie* rejection under 35 U.S.C. § 102(e) can not be adequately set forth relative to Baker (U.S. 6,394,507) in regard to new claim 21, the Examiner is not persuaded. Baker anticipates the recited new claim 21 limitations as follows:

mounting ring has a cone-shaped outer surface (as observed in marked Figure 2 above and column 9, lines 29-31) and is elastically expandable (a material suitable for the mounting ring will have elastic properties) and grips around the groove by projection portions (shaded area as observed in marked Figure 2 above) fitting therein and holding the ring affixed to the pipe (column 9, lines 30-38) with the mounting flange having a cone-shaped inner surface (as observed in

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marked Figure 2 above and column 9, lines 39-43) and being tightened against the ring, the gasket and the counter-flange.

*Conclusion*

45. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

46. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

47. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay R. Ripley whose telephone number is 571-272-7535. The examiner can normally be reached on 6:00AM - 3:00PM.

48. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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49. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



J. R. Ripley  
11 JAN 2006



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TECHNOLOGY CENTER 3600